

## Replacement Abstract

### ABSTRACT

A high-accuracy, long-life hydrodynamic bearing that does not cause oil film breakage in bearing clearances and a disc rotation apparatus using the bearing is disclosed. Oil film breakage is avoided as negative pressure is prevented from generating between the shaft and sleeve of the hydrodynamic bearing. Herringbone shaped dynamic pressure generating grooves, located on the thrust bearing section and the radial bearing section of the hydrodynamic bearing, are oil filled and have optimum shapes. The optimum shapes prevent the generation negative pressure and thus prevents the coagulation of air bubbles that can cause oil film breakage. The disc rotation apparatus, that holds a reproduction/recording disc, is concentrically secured to the hydrodynamic bearing and rotated. The disc is put into contact with magnetic or optical heads while rotating in the disc rotation apparatus. Both the hydrodynamic bearing and the disc rotation apparatus experience high reliability.